

AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WASTEWATER MANAGEMENT DIVISION  
103 SOUTH MAIN STREET  
WATERBURY, VERMONT 05671-0405

FACT SHEET  
(January 2007)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO  
DISCHARGE TO WATERS OF THE UNITED STATES

NPDES NO: VT0100676  
FILE NO: 01-14  
PERMIT NO: 3-1214  
PROJECT ID NO: RU96-0228

NAME AND ADDRESS OF APPLICANT:

Town of Orwell  
PO Box 31  
Orwell, VT 05760

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Orwell Wastewater Treatment Facility  
Sewer Plant Road  
Orwell, Vermont

RECEIVING WATER: South Fork of East Creek

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for bathing and recreation, irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable for public water supply with filtration and disinfection. A waste management zone is a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant applied on December 18, 2006 to the Vermont Department of Environmental Conservation for renewal of the permit to discharge into the designated receiving water. At this time the Department has made a tentative decision to reissue the discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Town of Orwell Wastewater Treatment Facility to the South Fork of East Creek.

## II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

## III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations: Page 2 of 16

Monitoring Requirements: Page 4 of 16

## IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of Orwell owns and operates the Orwell Wastewater Treatment Facility, an aerated lagoon facility that provides secondary treatment and chlorine disinfection of municipal wastewater. There are no pump stations in the collection system. Sludge was removed from both lagoons and the air lines replaced in 2001.

A 20-year engineering evaluation was completed in June 1998 by Phelps Engineering, Inc. At that time the evaluation indicated that the facility is well-maintained and operated.

**Flow** - The effluent flow limitation remains at 0.033 MGD, annual average, representing the facility's design flow. In general, the facility maintains a continuous discharge. Demonstration of the accuracy of the flow measurement device has been changed from weekly to monthly due to the small size of the facility.

**Biochemical Oxygen Demand (BOD<sub>5</sub>)** - The effluent limitations for biochemical oxygen demand remain unchanged from the previous permit. The monthly average (30 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/l, maximum day, BOD limitation. This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (8.3 lbs/day, monthly average and 12.4 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD quarterly monitoring requirement is unchanged from the previous permit.

**Total Suspended Solids (TSS)** - The monthly average and weekly average effluent limitations for total suspended solids remain unchanged from the previous permit. The

monthly average (45 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for aerated lagoons in 40 CFR Part 133.105. In addition, the permit contains a 50 mg/l, maximum day, TSS limitation (the previous permit contained a limit of 55 mg/l, maximum day). This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (12.4 lbs/day, monthly average and 12.4 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS quarterly monitoring requirement is unchanged from the previous permit.

**pH** - The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards, effective July 2, 2000. Daily monitoring is required.

**Settleable Solids** - The limitation of 1.0 ml/l instantaneous maximum remains unchanged from the previous permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5. of the Vermont Water Quality Standards, effective July 2, 2000. Daily monitoring is required.

**Total Phosphorus** - The 2002 "Lake Champlain Phosphorus Total Maximum Daily Load" established a phosphorus mass loading allocation for the Orwell WWTF utilizing an effluent concentration of 5.0 mg/l at the design flow of the facility (0.033 MGD). That allocation (0.228 metric tons per year or 502 pounds per year) is being incorporated into this permit.

The annual total pounds is the sum of the quarterly totals, which are calculated by multiplying the total quarterly flow x the quarterly average phosphorus concentration x 8.34. Monitoring is unchanged at quarterly.

***E. coli* Bacteria** - The *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards, effective July 2, 2000. Quarterly monitoring, with the exception of November 1 through March 31, remains the same as in the previous permit.

**Total Residual Chlorine (TRC)** - The TRC limits are unchanged at 1.0 mg/l (weekly average) and 2.0 mg/l (instantaneous maximum). It is the Department's interpretation that the receiving water acts as an impoundment and therefore achieving the instream 0.019 mg/l TRC level at 7Q10 based upon 1.0 mg/l maximum allowable TRC in the effluent is not appropriate in determining a residual chlorine level for this discharge. The monitoring frequency remains the same as in the previous permit.

The Department of Health, during a previous permitting period, was contacted regarding the applicability of seasonal disinfection for this discharge. That Department responded that there was no opposition to discontinuing the use of chlorine for disinfection of this discharge during the period November 1 through March 31 of each year. This permit

proposes to continue to authorize the permittee to cease using chlorine during this time period.

**Whole Effluent Toxicity (WET) and Priority Pollutant Testing** - 40 CFR Part 122.44(d)(1) requires the Department to assess whether the discharge causes, has the reasonable potential to cause, or contribute to an excursion above any narrative or numeric water quality criteria. The goal of the Vermont Toxic Discharge Control Strategy is to assure that the state water quality standards and receiving water classification criteria are maintained. Due to the small design flow (33,000 gpd) of the facility, the fact that the receiving water is essentially an impoundment, and that the Town has no industrial dischargers to the facility, whole effluent toxicity testing will not be required of this discharge at this time.

**Waste Management Zone** - As defined under 10 V.S.A. §1251(16), a waste management zone is "a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge".

The proposed permit retains the existing waste management zone (WMZ) that extends downstream from the outfall for approximately one mile in the South Fork of East Creek.

#### V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from January 29 through February 28, 2007 during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on February 28, 2007 will be retained by the Department and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Department.

Written comments should be sent to:

Vermont Agency of Natural Resources  
Department of Environmental Conservation  
Wastewater Management Division - Sewing Building  
103 South Main Street  
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

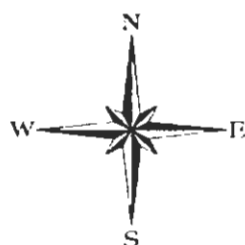
Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Department will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Department and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Department may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Department and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the current Secretary of State Official Fee Schedule for Copying Public Records from 8:00 AM to 4:30 PM, Monday through Friday. The draft permit and fact sheet may also be viewed on the Division's website at [www.anr.state.vt.us/dcc/www/wwwmd.cfm](http://www.anr.state.vt.us/dcc/www/wwwmd.cfm).

*No comments were received during the public notice period.*





1 inch equals 0.07 miles

Vermont State Plane Projection  
NAD 1983

Map Production: Vermont Agency of Natural Resources  
Division of Information Technology  
Geographic Information Services

*Orwell WWTF*